

# Australian Entomological Magazine

*Aust. ent. Mag.*

---

Volume 9, Part 5

January, 1983

---

## TWO NEW MINOR PESTS OF RIPE COCOA PODS IN PAPUA NEW GUINEA

By E. S. C. Smith and D. W. Kidd

Lowlands Agricultural Experiment Station, Keravat, East New Britain Province,  
Papua New Guinea

### Abstract

*Cardiodactylus novaeguineae* de Haan (Orthoptera: Gryllidae) and *Parastasia inconstans* Fairmaire (Coleoptera: Scarabaeidae: Rutelinae) are recorded as pests of cocoa pods. Spectacular, though unimportant, damage to the husk of ripe pods in three widely separated areas of Papua New Guinea is briefly described. The damage has not caused crop loss.

### Introduction

Cocoa (*Theobroma cacao* L.) (Sterculiaceae) is a very attractive host tree for pests and in Papua New Guinea over 300 insect species (Szent-Ivany 1961, 1963) and 47 fungi and algae (Shaw 1963) have been recorded on the crop. Descriptions of damage and the control measures effective against the relatively few pest species which cause crop loss or tree damage have been published recently (Smith 1979, Smith 1981). During 1980, two pests which caused spectacular, though unimportant, damage to ripe cocoa pods were observed and we give below brief notes on these minor pests which feed extensively on the husk (pericarp) of pods. Since feeding damage by these two pests has not penetrated beyond the pericarp it has not exposed the beans to saprophytic or pathogenic fungi which would cause their rapid degeneration. The resultant damage has therefore not produced pod losses.

### *Cardiodactylus novaeguineae* de Haan (Orthoptera: Gryllidae)

Damage by adult crickets was noted at Solang (Lau Island) and Derembat villages in Manus Province and at Naura village (near Alotau) and Yui Yai Plantation (Normanby Island) in the Milne Bay Province. The insect

was observed to feed on the husk of ripe pods, forming roughly conical pits up to 5 cm in diameter and 1-1.5 cm deep. Smaller, cup-shaped pits 1-2 cm across and about 1 cm deep were also eaten into the husk on some pods. Although feeding was at times quite extensive, no excavation had penetrated beyond the husk to the inner cavity (endocarp) containing the beans, and so the quality of beans was unaffected.

No previous record of this species attacking cocoa is known, although the cricket is very widespread throughout Papua New Guinea and has been collected from a wide range of crops. *C. novaeguineae* was associated with severe insect damage to robusta coffee (*Coffea canephora* Pierre) (Rubiaceae) in the Morobe and Northern Provinces (Anonymous 1969).

#### *Parastasia inconstans* Fairmaire (Coleoptera: Scarabaeidae: Rutelinae)

Adults of this species, in association with *P. guttulata* Fairmaire were observed to tunnel into the husk of ripe pods on the clone K24-106 at Induna Plantation, Lower Warangoi, East New Britain Province. The entrance holes and initial tunnels were about 0.7 cm in diameter, slightly larger than that of the adults. These tunnels were enlarged and extensive ramification occurred below the husk surface forming feeding hollows up to 4 cm wide and about 0.7 cm deep. In some pods, hollowing of the husk was so extensive that the excavations affected 25% of the surface area of the pod.

An adult beetle was also observed to tunnel in a similar manner into developing jackfruit (*Artocarpus heterophyllus* Lam.) (Moraceae) and to cause young fruits to abort.

Adults of at least five species of this genus have been collected from cocoa (Szent-Ivany 1961, 1963) but only *P. guttulata* and *P. simplicipes* Ohaus have previously been recorded to damage pods, while *P. inconstans*, *P. marmorata* Gestro and *P. montrouzieri* Fairmaire were implicated as foliage feeders. All of the above species, except *P. montrouzieri* which has been recorded only in the Northern Province, are endemic to the East New Britain Province and *P. guttulata* has also been collected from several localities on the East Coast of New Ireland.

#### References

- Anonymous, 1969. Insect pest survey for the year ending 30 June, 1967. *Papua New Guin. agric. J.* 21(2): 49-75.
- Shaw, D. E., 1963. Diseases of cacao in Papua New Guinea. *Papua New Guin. agric. J.* 15(3 + 4): 79-90.
- Smith, E. S. C., 1979. Cocoa pests and their control. *Harvest* 5(3): 186-196.
- Smith, E. S. C., 1981. An integrated control scheme for cocoa pests and diseases in Papua New Guinea. *Tropical Pest Management* 27(3): 351-359.
- Szent-Ivany, J. J. H., 1961. Insect pests of *Theobroma cacao* in the Territory of Papua and New Guinea. *Papua New Guin. agric. J.* 13(4): 127-147.
- Szent-Ivany, J. J. H., 1963. Further records of insect pests of *Theobroma cacao* in the Territory of Papua and New Guinea. *Papua New Guin. agric. J.* 16(1): 37-43.